

Connective Issues:

BSMB Newsletter



Committee:

Prof John Couchman (Chair), Prof Kim Midwood (Secretary),
Dr Tom van Agtmael (Treasurer), Ms. Laura Collins (Student rep),
Dr Michal Dudek (Post doc rep), Dr Giovanna Nalesso,
Dr Stephen Robinson, Prof Steph Dakin, Prof Jerry Turnbull,
Dr Kasia Pirog and Dr Blandine Poulet

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No. 96, December 2019

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Editorial

Welcome to the 96th Connective Issues. As we leave behind 2019 and venture into whatever brave new world is waiting in 2020 it seems that all that is certain is that we can, and we will, get Matrix Biology done! And what better way to embrace the spirit of continental collaboration than by attending one of the many excellent matrix-centric meetings taking place next year.

First up is our own BSMB Spring meeting, with a programme packed full of renowned speakers from all over the world. Please consider **registering for Surrey 2020!** Early bird registration and abstract submission will **open on January 1st.** Visit <https://bsmb.ac.uk> for more details about the meeting, including the programme, registration site, abstract submission site, as well as travel information. This meeting sees BSMB venture into an exciting new area of Matrix Biology, that of the interaction of matrix with lipids, in which we are joined by new colleagues from the British Atherosclerosis Society.

This will be followed by MBE2020 in May next year, hosted in Florence, Italy and spanning a wide range of topics including the BSMB sponsored plenary session focusing on matrix modification in inflammation and immunity. More details can be found here: <http://www.mbe2020.org/>

We look forward to seeing you at one or both of these meetings!

Kim Midwood, Honorary Secretary

Chair's Letter

First, I would like to extend my best wishes to all our members for a happy holiday season and a healthy and successful 2020. It seems incredible that a new decade is upon us. For

the BSMB, next year will see two meetings as usual. The first, at the University of Surrey in Guildford, will have lipid-matrix interactions as its theme and is being organised by Giovanna Nalesso. This is a new site for us, but is easily reached from London and the facilities there are excellent. The conference is held in collaboration with the British Atherosclerosis Society. Our autumn meeting will be in Glasgow, organised by Tom van Agtmael, and has a basement membrane theme. I hope as many as possible of our members will be able to attend one or both meetings. There will be ample time at both meetings for posters, networking, short presentations and "open" sessions where topics across the spectrum of matrix biology can be presented.

We have for many years opted to hold two meetings per year. By comparison with other societies and conferences in the biomedical sciences, the BSMB meetings are inexpensive, since we use university facilities available in the vacation periods, and we have benefitted from support from external sources, such as The Company of Biologists and many companies. We very much appreciate this vital support. Moreover, travel within the UK is reasonable in cost, particularly where booked in advance. However, we hear more and more that travel funds are harder to acquire. In an era of tightening budgets, conference travel can be one of the first casualties. At the BSMB we try to help as much as we can, not only by holding registration fees as low as possible, but also in the provision of travel bursaries. These are primarily for our early career members and can be obtained to offset costs of attending our meetings, but also, subject to some requirements, are available for travel to other, matrix-related conferences.

The BSMB committee, from time to time, has discussions around the question of whether to hold a single meeting or two meetings per

year. When this has been raised in past years, also at our AGMs, the consensus has been to retain two meetings, one argument being that a wider range of matrix biology can be covered in two short meetings. Many prefer our 1½ day format. However, it may be time for us to take soundings from our membership, particularly younger members, on their preferences. If you have views, please let the Committee know. The most straightforward way to do so is either directly with our Committee members, or by e-mail. The e-mail addresses of all Committee members are listed in this newsletter. Your thoughts are important, the BSMB's primary goal is to advance matrix biology and provide the meetings that you would like to attend.

Many thanks.

John Couchman, December 2019

Mark your diary

BSMB Spring 2020 Meeting

University of Surrey
April 6-7 2020

BSMB Autumn 2020 Meeting

University of Glasgow
August 31- 1 September 2020

BSMB Spring 2021 Meeting

University of Oxford
April 12-13 2021

BSMB News

**BSMB Spring 2020 meeting:
in collaboration with the British
Atherosclerosis Society**

University of Surrey, 6th & 7th of April 2020

It is our great pleasure to invite you to attend this meeting at the School of Veterinary medicine, Manor Park Campus in Surrey. The meeting is organised by the British Society for Matrix Biology together with the British Atherosclerosis Society. The conference will be held over one and a half days and includes 5 sessions covering diverse topics in The Fatty Matrix: biochemistry and clinical relevance of lipids/matrix interaction, together with the Fell-Muir Award, which this year will be presented to Prof Andy Pitsillides.

Selected abstracts from posters will be given 10 minute presentation slots in each session to encourage younger investigators to participate. There will even be one entire session dedicated to Early Career Researchers.

Organiser:

Giovanna Nalesso

Key dates:

- Registration opens 1st January 2020
- Bursary application deadline 15th February 2020
- Early Bird registration closes on 21st February 2020
- Late registration closes 20th March 2020
- Abstract submission will close 1st March 2020
- Oral presentation notification: 15th March 2020

For further information and to register, please visit: <https://bsmb.ac.uk>.

You can also follow us on...

Instagram: @[matrixbiologyuk](https://www.instagram.com/matrixbiologyuk)

Twitter: @[BSMB1](https://twitter.com/BSMB1)

Facebook: @[BritishSocietyForMatrixBiology](https://www.facebook.com/BritishSocietyForMatrixBiology)

WELCOME TO NEW BSMB MEMBERS!

New Student Members:

Emily Clarke
Shan Lu (UCL)
Milan Fowkes (Oxford)
Ramla Omar (Glasgow)
Cristina Domingos (Kingston)
Clarissa Coveney (Oxford)
Erin Boland (Glasgow)
Johanna Howson (Manchester)
Yu-Chin Lee (Arizona)
Dionysia Valkani (RVC)
Xiaochen Fan (Liverpool)
Damilola Sarumi (Liverpool)
Phaedra Winstanley-Zarach (Liverpool)
Adams George (Liverpool)
Aikta Sharma (Southampton)
Libby Jennings (Oxford)
Anna Marzeda (Oxford)

New Full members:

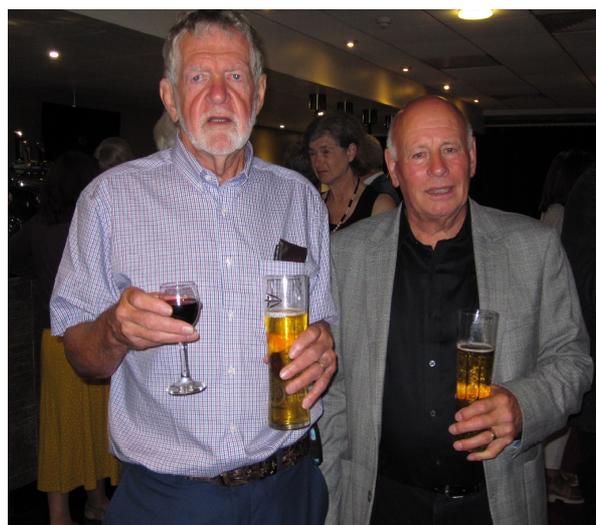
Yuan Yan (Angie) Sin (Glasgow)
Matteo Calligaris (Pisa)
Svein O. Kolset (Oslo)
Clare Thompson (Liverpool)
Emily Shorter (Liverpool)
Cátia Gonçalves
Shan lu (UCL)
Anthony Nash
Will English (Sheffield)
Annica Gad (Sheffield)
Keqian Nan (Sheffield)
Hussain Jaffery (Manchester)
Catarina Castanheira (Liverpool)

In press!

In Print: Abstracts from the Liverpool BSMB Spring meeting 2019 are now in print in the International Journal of Experimental Pathology.

In Print: “Extracellular matrix dynamics in cell migration, invasion and tissue morphogenesis” by Ken Yamada, winner of the 2019 BSMB Medal Award, et al, is now in print in the International Journal of Experimental Pathology.

A tribute to BSMB legends....



On September 6th 2019 a ‘farewell’ retirement dinner was held for two stalwarts of the British Society for Matrix Biology community – Professor Bruce Caterson and Professor Vic Duance, Cardiff University. Held at the Principality Stadium, the dinner was attended by 54 friends and colleagues from near and far including Australia and the States. The evening celebrated the achievements of Bruce and Vic, who collectively have contributed in excess of 90 years between them to the matrix biology field – no mean feat! Those close to Bruce and Vic have often heard them debate the greater importance of proteoglycans over collagen and vice versa, but on the night a draw was finally declared on their equal importance! Following on from a sumptuous

three-course meal (and a generous allowance of wine!), Bruce and Vic took to the stage and gave their own thoughts on their academic careers and the importance of friends and colleagues during this extensive period. This was then followed by an open mic forum to regale stories about Bruce and Vic; some were highly emotive and spoken from the heart. Others were downright funny including Bruce's penchant for a glass of port and Vic's ability to remain one of the last people standing at the bar and still be able to go for a run and make a 9am session at the BSMB conferences. Long may this continue! Anyone who attended BSMB meetings in the late 1990s/early 2000s will affectionately remember the rendition of '*Mustang Sally*' sung after every conference dinner by Dr Carl Flannery. For one night only, Carl led everyone through a rousing rendition of Mustang Sally in honour of Bruce and Vic. The celebrations left the Principality Stadium and continued long into the night....

We applaud you Bruce and Vic. We sincerely thank you for your contributions to the field of matrix biology over the decades. We thank you for your unwavering support, both to individuals and the BSMB. Happy retirement and see you at the next BSMB meeting!

Dr Emma Blain

School of Biosciences, Cardiff University

News from the International Society for Matrix Biology

BSMB members are reminded that the nomination period for the next Rupert Timpl Award of ISMB will end on Dec 31st 2019.

This award is given to a matrix biologist at an early stage of their scientific career, in general below 40 years of age, who has published the "Best paper in the field of matrix biology" during the period 2018 and 2019. Eligibility criteria are:

(i) age up to 40 years (with allowance for career breaks), (ii) having published the best paper in Matrix Biology over the previous two calendar years, 2018 or 2019, and (iii) showing evidence of starting out an independent career in Matrix Biology. Nominations should be sent to ISMB Secretary, Jo Adams, at jo.adams@bristol.ac.uk, by the deadline, and must include:

A letter of support that includes a rationale for the nomination and the specific paper published in 2018 or 2019 for consideration, and the nominee's CV, including a full list of publications.

Further information on the Rupert Timpl award is given at <https://ismb.org/announcement-to-ismb-members-for-opening-of-rupert-timpl-award-2020-competition/>

As an advance notice, the nomination period for the 2020 Distinguished Investigator award, which celebrates lifetime achievement in the field of Matrix Biology, will open in January 2020.

The next deadline for ISMB travel awards (available to eligible Ph.D. students and post-doctoral researchers) will be 1st Jan. 2020. Candidates for travel awards to the MBE 2020 meeting in May are advised to apply for this deadline. Full details can be found at <https://ismb.org/travel-grants-2/>.

Jo Adams

BSMB MEETINGS IN 2020

**BSMB Spring 2020 Meeting
in collaboration with the British
Atherosclerosis Society
University of Surrey, School of Veterinary
medicine, Manor Park Campus**

6th & 7th of April 2020

***The Fatty Matrix: biochemistry and
clinical relevance of lipids/matrix
interaction***

Organised by Dr Giovanna Nalesso

The conference will run over one and a half days and include 5 sessions spanning different areas related to the interaction - structural/biochemical/metabolic of lipids with the extracellular matrix. The conference aims to cover both pre-clinical and clinical relevance of the lipids/ECM relationship. The meeting will be enriched by the Fell Muir Award lecture which will be given by Professor Andrew Pitsillides (RVC).

Selected abstracts from posters will be given 10 minute presentation slots in each session to encourage younger investigators to participate. There will be one "open session" in which short talks will be selected from works related to any area of matrix biology, not necessarily related to the main topic of the conference.

Registration will open on the 1st of January 2020 (visit www.BSMB.ac.uk for details).

Early Bird (member) registration deadline will close on the 21st of February 2020.

- £100 student member
- £160 full member
- £130 student non-member
- £190 non-member

Late registration closes on the 20th of March 2020.

- £130 student
- £160 non-member-student
- £190 full member
- £220 non-member

Abstract submission will close on 1/03/2020

Speakers will be notified by 15/03/2020

Bursary application deadline 15/02/2020

The registration fees will not cover accommodation, but preferential booking rates have been agreed with the Travelodge hotel in Guildford and will include transportation by coach from the hotel to the conference venue in the morning of the second day.

Registration includes the conference dinner: a 3-course meal that will be held at 8.00 pm on the 6th of April at the Lakeside Restaurant located within the Stag Hill Campus of the University of Surrey.

Social events: Wine Reception & Poster Viewing: Wine, beer and nibbles during poster viewing on Monday evening (6th of April, 6.30 - 7.30 pm).

Programme

Day 1: 06/04/2020

| | | |
|------------------|---|---------------------------|
| 11-12.40 | REGISTRATION | Conference office |
| 12.45-1.00 | Opening remarks | |
| | Welcome and Introduction | Giovanna Nalesso-UoS |
| Session 1 | Impact of lipid metabolism on the extracellular matrix | |
| 1.00-1.30 | Dr Robert Snelgrove | Imperial College (London) |
| 1.35-1.45 | Shortlisted abstract | |
| 1.50-2.00 | Shortlisted abstract | |
| 2.05-2.15 | Shortlisted abstract | |
| 2.20-2.30 | Shortlisted abstract | |
| 2.30-3.00 | Prof Sirio Dupont | University of Padua |
| | | |
| 3.10-3.40 | Tea&Coffee/poster display | |
| | | |
| Session 2 | Cell-to-cell communication | |
| 3.45-4.15 | Prof Giampietro Schiavo | UCL |
| 4.20-4.30 | Shortlisted abstract | |
| 4.35-4.45 | Shortlisted abstract | |
| 4.50-5.00 | Shortlisted abstract | |
| 5.05-5.35 | Prof Pascale Zimmermann | Inserm |
| | | |
| 5.35-6.20 | Fell Muir lecture-Prof Andrew Pitsillides | |
| 6.30-7.30 | Drinks&posters | |
| 8.00-11.30 | Dinner @ Lakeside restaurant-Stag Hill Campus | |

Day 2: 7/04/2020

| | | |
|------------------|--|-----------------------|
| Session 3 | Hosted by the British Atherosclerosis Society | |
| 9.00-9.30 | Dr Jason Johnson | University of Bristol |
| 9.35-9.45 | Shortlisted abstract | |
| 9.50-10.00 | Shortlisted abstract | |
| 10.05-10.15 | Shortlisted abstract | |
| 10.20-10.30 | Dr Javier Barallobre-Barreiro | Kings College London |
| | | |
| 10.30-11.00 | Tea&Coffee and poster display | |
| | | |
| Session 4 | Open session | |
| 11.00-11.30 | Prof Joke Bouwstra | Leiden University |
| 11.35-11.45 | Shortlisted abstract | |
| 11.50-12.00 | Shortlisted abstract | |
| 12.05-12.15 | Shortlisted abstract | |
| 12.20-12.50 | Dr Rami Hannoush | Genentech |
| | | |
| 1.00-2.30 | Lunch&posters | |

| | | |
|------------------|--|------------------------|
| 2.00-2.30 | BSMB AGM | |
| | | |
| Session 5 | Relevance of lipid-matrix interactions in disease | |
| 2.30-3.00 | Dr Lucy Norling | QMUL |
| 3.05-3.15 | Shortlisted abstract | |
| 3.20-3.30 | Shortlisted abstract | |
| 3.35-3.45 | Shortlisted abstract | |
| 3.50-4.20 | Prof Georg Hansmann | University of Hannover |
| 4.20-4.40 | Prizes and closure | |
| 5.00-7.00 | BSMB meeting committee meeting | |

BSMB Meetings in 2020-21

Autumn 2020 Meeting

University of Glasgow
August 31- 1 September 2020

Basement membranes in health and disease

*Organised by Tom Van Agtmael
and Rachel Lennon*

Spring 2021 Meeting

University of Oxford
April 12-13th 2021

Inflammation, fibrosis, resolution and the matrix

Organised by Steph Dakin

BSMB Bursaries

Bursaries for the BSMB meeting in Surrey

The BSMB bursary scheme is to encourage early career (non-tenured) BSMB members to attend meetings relevant to matrix biology. The next BSMB annual meeting is to be held in April 2020 in Surrey. As always, we provide conference presenter and conference reporter bursaries to current BSMB members.

Applications will only be considered if they are submitted on a current Bursary form available on the BSMB website. Completed application form with supervisor's recommendation, together with one-page curriculum vitae, should be sent to Qing-Jun

Meng, Chair of the BSMB bursary committee (qing-jun.meng@manchester.ac.uk).

- The qualifying BSMB membership period is 3 calendar months to the opening of the meeting. Membership subscription status should be up-to-date at the time of sending in the application.
- The deadline for receipt of bursary applications will be on the BSMB meeting website (usually 6 weeks before the early bird registration deadline).
- The maximum amount of a bursary is at £250.

The applications will be reviewed rapidly by the Committee and applicants will be informed of the outcome in advance of the meeting registration deadline.

BSMB has also put aside funds for **8 travel bursaries** for younger scientists (**BSMB members only**) to attend the upcoming Matrix Biology Europe (MBE) 2020 meeting to be held in Florence, Italy in May 2020. The amount of the award will be up to **£500**.

To be eligible, applicants should have been a member of the BSMB for at least 6 calendar months prior to the opening (first day) of the meeting. Applicants must have attended at least one BSMB meeting. Applicants should be non-tenured scientists, preferably at the early stages of their career (ie PhD students or up to 6 years post-doc). Applicants must be contributing a poster or a talk. Applicants must participate (together with other bursary recipients) in producing a written report of the conference for posting on the BSMB website.

Bursaries will only be considered if they are submitted on a current EuMB/ASMB bursary form on the BSMB website. The application should be accompanied by a copy of the

abstract to be presented at the meeting and a one page pro-forma CV (template on the BSMB website). The work described in the abstract must be novel and of a quality that would reflect well as a BSMB-supported contribution.

The deadline for receipt of bursary applications will normally be 6 weeks before the early bird registration deadline.

Applications should be sent to Qing-Jun Meng (qing-jun.meng@manchester.ac.uk).

We look forward to receiving many applications and seeing many of you in this exciting scientific event of the matrix biology field.

Qing-Jun Meng

Chair of the BSMB Bursary Committee.

MEETING REPORTS

BSMB Norwich 9th -10th September 2019

Report By Anna Gatseva and Ramla Omar, PhD Students, University of Glasgow

The 'Cell Adhesion Networks in Health and Disease' BSMB Autumn meeting was held at the University of East Anglia and hosted by Stephen Robinson. The meeting spanned two days, from the 9th- 10th of September 2019. The meeting included a variety of speakers, both from the United Kingdom, and international.

The meeting was not very big, however this made it a very friendly meeting as one could approach anyone and speak to all of the attendees. In addition, what we really enjoyed was that we could attend all the

talks and not have to choose between sessions. We could also have a look at all of the posters and chat to many people, therefore it was indeed a great networking opportunity.

The first day of the meeting covered a variety of topics focusing around adhesion signalling networks and novel approaches to studying them. The topics were novel for me and very useful in demonstrating the scope of matrix research, for example studying matrix proteins in relation to angiogenesis and breast cancer. This also included the John Scott Lecture by Salvatore Santamaria who was awarded the Young Investigator Award. His lecture provided a comprehensive overview of ADAMTS research in the last two decades. Listening to this talk provided insights into all of the hard work that goes into addressing a biological question. It also helped me to realise it is normal for research to be going back and forth and experiencing different issues.

The BSMB autumn meeting was certainly a great opportunity to get familiar with how conferences work, network with a wide range of scientists – from first year PhD students to senior Principal Investigators and learn more about the scope of matrix research. Giving a talk alongside senior researchers in the field was a very useful and exciting experience and I would like to encourage future organisers to continue giving this opportunity to PhD students even in early stages of their research. The meeting provided a lot of opportunities for discussions – scientific and otherwise, feedback on one's research, opportunities to meet like-minded people and share experience.

On the morning of the second day, the host Stephen Robinson, encouraged us to attend an open discussion regarding “The Mentor/Mentee relationship – what do we need to drive each other’s success?”. We were split into groups of mentors and mentees; the mentees were asked to write what would make a great mentor and vice versa. For us this was a great opportunity to learn how we could improve ourselves as a mentee, it also helped us to voice our opinions on the qualities a mentor should have. This was a really useful session because it demonstrates that PIs are also struggling with a lot of similar issues as PhD students. We strongly recommend this or similar session in future meetings as it provides a great opportunity to openly discuss things with each other that would not have been very easily discussed otherwise.

Following the open discussion, the next group of speakers presented their work centring around Adhesion network trafficking. We were especially impressed by Mark Bass’s research which focussed around the role of syndecan-4 and the use of low intensity pulsed ultrasound treatment to help wound healing.

Finally, the last session was chaired by Kim Midwood and had two speakers, the first speaker Anna Gatseva talked about modifiers for collagen IV related disorders in *C.elegans* while the second speaker Vasso Kostourou explained the requirement of Talin mechanosensing for vascular development and angiogenesis. The BSMB meeting was concluded with an award session for best poster which was awarded to Ramla Omar, Samantha Arokiasamy and Connor Sugden.

We would like to thank the BSMB for giving us the opportunity to present our research

and for providing us with a bursary to make it possible. We had the great experience of networking with researchers that worked within the same field and also learn from scientist that have contributed greatly to matrix biology.



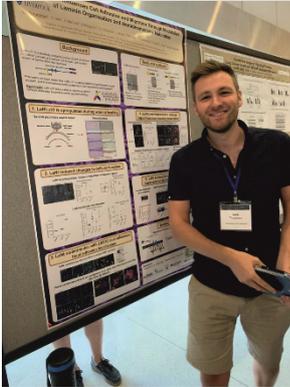
John Couchman and Tom Van Agtmael present Ramla Omar (Glasgow), Samantha Arokiasamy (QMUL) and Conor Sugden (Liverpool) (in absentia) with their prizes for best poster sponsored by the International Journal of Experimental Pathology.



John Couchman, Kim Midwood and James Whiteford present Salvatore Santamaria with his John Scott memorial Young Investigator Award.

ASMB: Basement Membrane Meeting 10th -12th July 2019, Nashville, USA

This July, thanks to generous funding from the BSMB, I had the absolute pleasure of flying out to Nashville to present at the ASMB: Basement membrane meeting hosted by the Vanderbilt University. I was fortunate enough to be given an



oral presentation for this meeting, which also meant presenting a poster as well. As we work on LAMA genes, my PI made me pose for a photo “with my poster” in Manchester airport. This confused some passers-by but was a good chance for some ad-hoc sci-comm! Unfortunately, we did not find a camel poster for Dr K Hamill. The real poster (below) and talk were well

received and yielded a load of useful input for future directions.

This meeting really was excellent. I have been lucky enough to go to a few conferences in Europe, but this was my first Gordon-conference-like meeting, where every talk was directly relevant to my work, and where the delegates stayed together and ate together for the entire meeting. Below is a photo of most of the attendees.



If you work in the basement membrane field, you will recognise most of the attendees and that really was the other huge benefit of this meeting;

getting to interact with everyone whose papers I have been reading over the years.

On the first day, we arrived late on the Wednesday to tea and coffee, before a welcome from Roy Zent and the keynote lecture on “Matrix Mechanobiology: The role of matrix stiffening in vascular function” by Cynthia Reinhart-King from Vanderbilt University.

Cynthia gave a superb lecture which was split up into her work on atherosclerosis and angiogenesis in tumour growth. First up, Cynthia’s showed really nice culture-based models designed to mimic different matrix stiffness’s; demonstrating that increased blood vessel basement membrane (BM) stiffness changes the permeability of the endothelial barrier via Rho/ Rock dependant cell-cell junction changes. Cynthia then moved onto showing us data from her mouse work, looking to prevent/treat atherosclerosis. Her work looking at whether simvastatin can reduce risk demonstrated that statins can increase cell-cell junctions and reduce blood vessel permeability. However, although the data revealed that exercise can slow the blood vessel BM stiffness increase associated with a poor diet, only a change in diet can really stop and reverse obesity-linked BM stiffening.

Cynthia’s work on tumour angiogenesis was fascinating. They have developed in vitro 3D-models to alter stiffness, while keeping the ECM component at the same density. This is important, as most of the current published data tend to derive from increasing stiffness through increased density or from 2D-polyacrylamide gel models. This data showed that stiffer tumours encourage more angiogenesis, and that stiffer substrates increase alternate splicing of matrix genes.

Unfortunately, I do not have the space to go through all the excellent research that was presented at this meeting (and I’m sure my inadequate notes wouldn’t do the work justice

either), so I'm just going to briefly focus some of the plenary talks I really enjoyed.

Day 2 began with a talk by Andrea Page-McCaw from Vanderbilt University on "Shared mechanisms in adult basement membrane repair and homeostasis". Andrea presented some insightful work on BM formation during development. Her *Drosophila* models demonstrate how during embryogenesis, haemocytes appear to be responsible for BM deposition, while in larva it is the adipose tissue, and in the developing egg it is mostly epithelial cells. Additionally, they demonstrated that during wound repair, most of the BM is actually produced by adipose tissue, and then re-organised by the epithelial cells.

Rachel Lennon from the Wellcome Centre for Cell-Matrix Research at the University of Manchester, UK, presented on "Linking basement membrane composition with cell morphology". Rachel's group are experts in BM proteomics, and have some interesting data from glomeruli BMs taken from mouse models for Alport syndrome. They found that laminin and collagen isoforms were differentially expressed in their model, and that when podocytes are cultured on different BM components, cell morphology is drastically altered. Additionally Rachel's group are developing some really cool organoid models to study kidney function in vitro in 3D.

Deborah Fass from the Weizmann Institute of Science, Rehovot, Israel presented her group's work on QSOX1; "Catalysis of disulfide bond formation downstream of the endoplasmic reticulum is required for extracellular matrix integrity". Deborah presented some nice data showing that QSOX1 regulates matrix protein expression, where knock out models caused a decrease in laminin 211, and inhibition caused a decrease in laminin and fibronectin expression. Deborah's mouse model showed that in the absence of QSOX1, the lungs had smaller alveolar pores, and were weaker/ had reduced stiffness.

Kiyotoshi Sekiguchi from Osaka University, Japan presented his group's work on "Bipartite recognition of laminin by integrin: mechanism and biological implications". This work was fascinating. Kiyotoshi's sought to determine how the laminin $\gamma 1$ chain was required for laminin-integrin binding, whether it interacted with $\alpha 6\beta 1$ integrin or is simply required to stabilise the laminin LG1-3 domains. Kiyotoshi's group found that individually, none of 54 acidic residues located on the LG1-3 domains were required for binding to integrin, but interestingly, a single glutamine residue located within the $\gamma 1$ tail was essential.

José Carlos Pastor-Pareja from Tsinghua University, Beijing, China presented his groups work on "Typical and atypical basement membranes in *Drosophila*. What's normal, anyway?" José's work on BM development in *Drosophila* focuses on the BM in the wing disk. José's group found that the wing disk becomes more compressed in perlecan knockout models, but completely distorted in the absence of collagen IV. Interestingly, in the absence of collagen IV perlecan is also absent, but laminin and nidogen remain unaffected. In their wing blister models, José's team identified that the BM between the ventral and dorsal epithelium consists of laminin "spots" rather than sheets, which in turn connect to a focal adhesion at the end of a microtubule-rich cell-protrusion.

Peter Yurchenco from Rutgers Robert W. Johnson Medical School presented on the "Organization of the Laminin Polymer Node". Peter's work on the laminin ternary node has identified the key amino acid residues in each of the laminin chain LN domains required for polymerisation. Additionally, Peter presented negative stain EM images visualising the ternary nodes in high resolution, showing for the first time how these domains "interlock" by binding on both ends of the LN domain.

Tom Van Agtmael from the Centre for the Cellular Microenvironment, University of Glasgow

presented on “Material-driven fibronectin assembly rescues matrix defects due to mutations in collagen IV in fibroblasts”. Tom’s group use synthetic polymer biointerfaces (poly-ethyl acrylate or poly-methyl acrylate) coated with BM components to generate controlled microenvironments to study Col IVA1/2 mutation effects on cell function. Tom presented some nice data showing how fibronectin nano-networks induce the secretion of Col IV via integrin $\beta 1$ signalling, and that this coupled with a reduction in ER size and increase in protein chaperone molecules partially rescued the reduced matrix-stiffness phenotype observed with Col IV mutations.

As I said, there really was so much brilliant science presented at this meeting, and covering it all would not be possible, but I do apologise to those I have missed out. Moving away from the science for a moment however, travelling all the way to Nashville without embracing the music scene and all the city has to offer would be no fun at all!

The conference dinner was in one of the best BBQ joints on the strip and below are some snaps



showing the nightlife.

The music scene was awesome, every single bar in the city had live music on day and night. Whether country, rock, or bluegrass, there was an abundance of bars to check out; most of which were packed to the rafters all day long!

Of course, visiting Nashville without paying tribute to the late, great Jonny Cash wouldn’t be right, so we visited the Cash museum too. I love most of Cash’s music, but perhaps not so much his acting.



It wasn’t all whiskey and country though, we did take some time to take in some of the other Tennessee culture. You can see the women’s suffrage memorial in downtown



Knoxville. This inspirational memorial stands proudly next to the somewhat random replica of the Parthenon. Apparently, a temporary structure for the world fair was erected and the people of Nashville decided to keep it, so they rebuilt it as a more permanent structure; either way, it is pretty awesome to look at.

All in all, Nashville was amazing! Roy and Jeff put on a truly brilliant meeting, with inspirational science and excellent food/ accommodation in probably the most fun city I’ve ever visited. I will definitely make every effort to go again in two years’ time. For more “NashBash” stories and for more from the Hamill Lab, check out our lab blog at <https://lantsandlaminins.com/>.

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BSMB Spring Meeting in collaboration with the British Atherosclerosis Society



"The Fatty Matrix: biochemistry and clinical relevance of lipid/matrix interactions"

University of Surrey, Guildford, UK, 6th and 7th of April 2020

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- Prof Pascale Zimmermann (Inserm, France)
- Dr Jason Johnson (University of Bristol, UK)
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Registration opens January 2020



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